IN THE CLAIMS:

The text of all pending claims is set forth below. Cancelled and withdrawn claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented) or (not entered).

Please AMEND the claims and ADD claims 19-21 in accordance with the following:

1. (Currently Amended) An automatic transaction apparatus ~~for~~ communicating with a host and performing a transaction operation according to ~~the~~ an operation of a customer, comprising:

a plurality of I/O units ~~for~~ performing said transaction operation; and

a control unit ~~for~~ controlling one of said plurality of I/O units according to first transaction control signals from said host, and

wherein said control unit comprises:

a middleware layer ~~for~~ operating according to control of a kernel and controlling one of said plurality of I/O units ~~unit;~~,

a parameter file ~~for~~ storing parameters ~~for~~ to convert ~~converting~~ said first transaction control signals, which are a common type to all apparatus connected to said host and specified by an interface with said host, into second transaction control signals specific to said middleware layer~~;~~, and

an I/O control layer ~~for~~ converting ~~the~~ said first transaction control signals, ~~specified by the interface with said host,~~ into ~~the~~ said second transaction control signals specific to said middleware layer~~,~~ by referring to said parameter file, and operating said middleware layer based on said second transaction signals,

and wherein said middleware layer specific to said apparatus controls said I/O units so as to perform a financial transaction operation designated by said first transaction signals, according to said second transaction signals.

2. (Currently Amended) The automatic transaction apparatus according to Claim 1, wherein:

said I/O control layer further comprises a plurality of I/O control libraries corresponding to each of said plurality of I/O units~~,~~; and

~~and wherein~~ said I/O control layer calls up one of said plurality of I/O control ~~library~~ libraries according to ~~the~~ said first transaction control signals from said host, reads parameters corresponding to one of said plurality of I/O control ~~library~~ libraries from said parameter file, edits ~~the parameters to the~~ said second transaction control signals specific to said middleware layer using the parameters, and operates said middleware layer.

3. (Currently Amended) The automatic transaction apparatus according to Claim 1, wherein said middleware layer comprises:

an I/O client layer ~~for~~ intermediating ~~the~~ third transaction control signals to one of said plurality of I/O ~~unit~~ units;

an I/O server layer ~~for~~ starting and ending ~~of~~ an I/O operation and controlling the communication protocol by ~~the~~ said third transaction control signals of said I/O client layer; and

an I/O service provider layer ~~for~~ converting messages with each of said plurality of I/O units.

4. (Currently Amended) The automatic transaction apparatus according to Claim 1, wherein said plurality of I/O units ~~are a plurality of I/O units which~~ implement cash transactions based on said operation of the customer.

5. (Currently Amended) The automatic transaction apparatus according to Claim 1, wherein said I/O control layer receives ~~the~~ said first transaction control signals from said host which follow ~~follows the~~ a cash transaction sequence specified by said customer, operates one of said plurality of I/O units ~~unit~~, and returns a reply to said host.

6. (Currently Amended) The automatic transaction apparatus according to Claim 1, wherein said control unit further comprises a browser ~~for~~ communicating with said host on the Web and exchanging ~~the~~ said first control signals specified by the interface between said I/O control layer and said host.

7. (Currently Amended) The automatic transaction apparatus according to Claim 1, wherein said I/O control layer ~~logicalizes~~ renders logical the reply from one of said plurality of I/O units ~~unit~~ and ~~replies~~ forwards it to said host.

8. (Currently Amended) The automatic transaction apparatus according to Claim 7,

wherein:

one of said plurality of I/O units ~~unit~~ is an I/O unit ~~for~~ handling a medium~~,~~; and

~~and~~ said I/O control layer ~~logicalizes~~ renders logical the reply regarding said medium from said I/O unit, and ~~replies~~ forwards it to said host.

9. (Currently Amended) An automatic transaction control method of an automatic transaction apparatus ~~for~~ communication with a host and performing a financial transaction operation according to ~~the~~ an operation of a customer, comprising ~~steps of~~:

receiving first transaction control signals specified by an interface with said host;

controlling a plurality of I/O units ~~for~~ performing said financial transaction operation using a middleware layer based on said first transaction control signals; and

referring to a parameter file ~~for~~ storing parameters to convert ~~for converting the~~ said first transaction control signals, which are a common type to all apparatus connected to said host and specified by the interface with said host, into second transaction control signals specific to said middleware layer, converting ~~the~~ said first transaction control signals sent from said host into ~~the~~ said second transaction control signals specific to said middleware layer, and operating said middleware layer by said second transaction control signals,

wherein said controlling comprises controlling said I/O units so as to perform a financial transaction operation designated by said first transaction signals, by said middleware layer specific to said apparatus operated according to said second transaction signals.

10. (Currently Amended) The automatic transaction control method according to Claim 9, wherein said operating step further comprises ~~steps of~~:

calling up an I/O control library from a plurality of I/O control libraries corresponding to each of said plurality of I/O units according to ~~the~~ said first transaction control signals from said host;

reading parameters corresponding to said I/O control library from said parameter file; and

editing ~~the~~ said second transaction control signals specific to said middleware layer by using the parameters, and operating said middleware layer.

11. (Currently Amended) The automatic transaction control method according to Claim 9, wherein said control step further comprises ~~a step of~~ controlling one of said plurality of I/O units ~~unit~~ by said middleware layer having an I/O client layer to intermediate ~~for~~

~~intermediating the~~ third transaction control signals to one of said plurality of I/O ~~unit~~units, an I/O server layer ~~for~~ starting and ending the I/O operation and controlling the communication protocol by ~~the~~ said third transaction control signals of said I/O client layer, and an I/O service provider layer ~~for~~ converting messages with each of said plurality of I/O units.

12. (Currently Amended) The automatic transaction control method according to Claim 9, wherein said control step comprises ~~a step of~~ controlling said ~~a~~ plurality of I/O units ~~that~~ to perform cash transactions based on said operation of the customer.

13. (Currently Amended) The automatic transaction control method according to Claim 12, further comprising ~~a step of~~ returning the operation result of one of said plurality of I/O ~~unit~~ units according to ~~the~~ said first transaction control signals from said host, which follow ~~follows~~ the cash transaction sequence specified by said customer, to said host as a reply.

14. (Currently Amended) The automatic transaction control method according to Claim 9, wherein said receiving step comprises ~~a step of~~ communicating with said host on the Web and exchanging ~~the~~ said first transaction control signals specified by the interface with said host.

15. (Currently Amended) The automatic transaction control method according to Claim 9, further comprising ~~a step of logicalizing~~ rendering logical the reply from one of said plurality of I/O units ~~unit~~, and forwarding ~~replying~~ it to said host.

16. (Currently Amended) The automatic transaction control method according to Claim 15, wherein said reply from one of said plurality of I/O units ~~step~~ comprises ~~a step of logicalizing~~ rendering logical the reply regarding said medium from ~~the~~ one of said plurality of I/O ~~unit~~ units handling the medium, and ~~replying~~ forwarding it to said host.

17. (Currently Amended) A computer-readable medium storing a control program of an automatic transaction apparatus ~~for~~ communicating with a host and performing a transaction operation according to ~~the~~ an operation of a customer, ~~for having~~ and controlling said automatic transaction apparatus to perform ~~steps of~~:

receiving said first transaction control signals specified by an interface with said host; ~~and~~

referring to a parameter file which stores ~~store~~ parameters ~~for~~ converting ~~the~~ said first

transaction control signals, which are a common type to all apparatus connected to said host and specified by the interface with said host, into said second transaction control signals specific to a middleware layer ~~for~~ to control ~~controlling~~ a plurality of I/O units to perform ~~for performing~~ said transaction operation, convert ~~converting the~~ said first transaction control signals, sent from said host, into ~~the~~ said second transaction control signals unique to said middleware layer, and operate ~~operating~~ said middleware layer; and

controlling said I/O units so as to perform a financial transaction operation designated by said first transaction signals, by said middleware layer specific to said apparatus operated according to said second transaction signals.

18. (Currently Amended) The ~~control program~~computer-readable medium according to Claim 17, ~~for~~ further ~~having~~ controlling said automatic transaction apparatus to perform ~~a step of logicalizing~~ rendering logical the reply from one of said plurality of I/O units ~~unit~~, and forwarding it ~~replying this~~ to said host.

19. (New) The automatic transaction apparatus according to claim 1, wherein said I/O control layer converts said first transaction control signals comprised of first common commands for said financial transaction into said second transaction control signals comprised of second commands and parameters specific to said middleware.

20. (New) The automatic transaction control method according to claim 1, wherein said converting comprises converting said first transaction control signals comprised of first common commands for said financial transaction into said second transaction control signals comprised of second commands and parameters specific to said middleware.

21. (New) A method for controlling a financial transaction operation, comprising:

receiving, from a financial transaction apparatus, a first transaction control signal for said financial transaction operation;

converting said first transaction control signal into a second transaction control signal specific to a middleware layer; and

controlling said financial transaction apparatus to perform said financial transaction operating in said middleware layer using said second transaction control signal.